Interstate Fiscal Disparity in 1997

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Readily available tax statistics tell state and local policymakers the amount and mix of revenues that their governments receive. However, these officials pose harder fiscal questions than simply how much money is flowing into their coffers and from what sources. They frequently ask, What is our state's capacity to raise revenues, regardless of how much we actually collect? To what extent do we utilize that capacity? Is our revenue capacity sufficient to finance our state's need for public services? These questions are especially salient today, given that during state fiscal year 2002 (FY2002) revenues in most states fell far short of their targeted levels.

Questions surrounding the issue of fiscal adequacy are difficult to answer definitively. In previous articles appearing in this *Review* (Tannenwald 1998, 1999), we evaluated interstate differences in fiscal capacity and fiscal need for FY1994 and FY1996. Prior to these efforts, the U.S. Advisory Commission on Intergovernmental Relations (ACIR) developed indicators providing such interstate comparisons for several (but not all) years from FY1962 through FY1991. This article presents such comparisons for FY1997.

I. Key Concepts

As noted in Tannenwald (1999), the 50 states differ widely in the fiscal pressures that they confront. While all states must provide services to residents, workers, travelers, and tourists, some must work harder than others to perform these functions. For example, some states have a high proportion of residents below or near the poverty line who need cash assistance, special education, and extensive health care. Others have a high concentration of children between the ages of 5 and 18 who need schooling. Such states have high *fiscal need*, that is, they face conditions that increase the cost of delivering services or augment the scope of services that they must provide.

The states also differ dramatically in their capacity to raise revenues, referred to as their *fiscal capacity.* The term *tax effort* refers to the proportion of tax capacity actually utilized—the ratio of revenues collected to tax capacity. In order to evaluate a state's degree of *fiscal comfort* properly, one must take into account capacity relative to need.

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Differences across jurisdictions in fiscal comfort reflect *fiscal disparity*. The degree of fiscal disparity among subnational jurisdictions has been a troubling issue in many nations, including the United States and Canada. Since World War II, federal policymakers in both nations have implemented a number of aid programs designed to mitigate interstate and interprovincial fiscal disparity. In order to evaluate the effectiveness of their efforts, policy analysts have tried to estimate the extent of fiscal disparity in both countries and identify those states and provinces exhibiting the most severe degree of fiscal stress.

In recent years, the degree of fiscal disparity has been an important element of the "devolution" debate. While some policymakers have argued that many fiscal responsibilities that are currently in the federal realm should be "devolved" to the states and provinces, others worry that some states and provinces lack the ability to expand their fiscal domain. They are also concerned that those states and provinces least able to assume abandoned federal programs would be at a disadvantage in interstate competition, forcing them into a vicious circle of reduced public services, loss of labor and capital, intensification of their fiscal problems, and further spending cuts or tax increases. Thus, the levelness of the interstate and interprovincial "playing field" remains a key empirical issue in U.S. and Canadian intergovernmental fiscal relations.

II. Fiscal Capacity

As in our earlier articles, we use a modified version of methodologies developed by ACIR, an organization that no longer exists, to compare the states in terms of fiscal capacity and fiscal need. These methodologies are called the representative tax system (RTS) and the representative expenditure system (RES) approaches.[1]

RTS Methodology

RTS evaluates states' tax capacity by estimating the per capita yield that a hypothetical uniform, representative tax system would produce in each state. This tax system consists of the 21 principal categories of taxes levied by state and local governments for which data comparable across states are available. In the application of each tax, a uniform rate is levied on an ideal comprehensive base, whose definition is necessarily somewhat subjective. In order to determine it, RTS first identifies how the tax's base would be defined if it were devoid of all "tax incentives" or "tax breaks," that is, exclusions, deductions, and exemptions intended to encourage certain forms of behavior or to relieve groups of taxpayers in particular circumstances.[2] For example, the general sales tax ideally applies to the sale of all goods and services at the retail level (other than a few commonly subject to specific, selective excises, such as motor fuels), including such frequently excluded items as food and clothing. From this normative ideal, RTS subtracts items that are almost never taxed because of administrative or political constraints, such as business services. In subtracting these items from the "ideal" base, RTS makes a judgement that governments exclude these items because they are compelled to, not because they choose to.[3]

Having defined and measured the standard base of each tax, RTS then determines the "standard rate" to be applied to each base. This rate is set equal to the ratio of actual nationwide collections from the tax to the value of the nationwide standard base. For example, in FY1997, the estimated nationwide standard retail sales tax base was $2.65 trillion. Nationwide collections from

[1] RTS and RES are explained more fully in Tannenwald (1998), U.S. Advisory Commission on Intergovernmental Relations (1993), and this study's detailed methodological appendix (available from the author on request).

[2] These features are often referred to as "tax expenditures," a term coined by Surrey (1973).

[3] In justifying the inclusion of food and clothing but the exclusion of business services, a practitioner of RTS might point out that 19 of the 45 states levying a general sales tax apply it to food, while none apply it to a wide array of business services. Attempts to tax a substantial fraction of business services, such as in Florida (in 1985) and Massachusetts (in 1990), failed because of the difficulty of apportioning the value of interstate transactions and the intense opposition of certain interest groups.

the retail sales tax totaled $179 billion. For the purposes of RTS, the standard rate was, therefore, $179 billion/$2.65 trillion, or 6.74 percent. The FY1997 standard bases and tax rates for all taxes in RTS are presented in Table 1.

After the characteristics of each tax are determined, RTS divides each base among the states and applies the standard rate to each state's base to estimate the state's capacity to raise revenues from that tax. For example, in FY1997, Connecticut's standard general sales tax base was estimated at $34.4 billion, 1.3 percent of the nationwide total. If Connecticut had levied the standard 6.74 percent rate on this base, it would have raised $2.32 billion in revenue, about $709 in per capita terms. The comparable estimate for the nation was $667 per capita. Thus, Connecticut's sales tax capacity was $709/$667, or 106 percent of the national average. This exercise was repeated for every tax for each state. Per capita capacity estimates for all taxes were summed to obtain state-specific total per capita tax capacity estimates. Capacity estimates were indexed to the national average (set equal to 100).[4]

Table 1
Design of Representative Tax System for Fiscal Year 1997

	State-Local Tax Collections		Standard Revenue Bases and Tax Rates	
Revenue Source	Amount ($ billions)	Percent of Total	Base ($ millions)	Rate
General Sales and Gross Receipts Taxes	178.75	25.13	2,650,139	6.74¢/$
Selective Sales Taxes	67.57	9.50		
Motor Fuel	28.09	3.95	150,712	$0.19/gallon
Alcoholic Beverages	4.02	.57		
Distilled Spirits	1.55	.22	136	$11.45/gallon
Beer	2.04	.29	265	$7.70/gallon
Wine	.43	.06	66	$6.58/gallon
Tobacco	7.67	1.08	23,040	$0.33/pack
Insurance	9.27	1.30	667,197	1.39¢/$
Public Utilities	16.20	2.28	496,020	3.27¢/$
Pari-mutuel	.42	.06	17,845	2.37¢/$
Amusements	1.90	.27	76,978	2.47¢/$
License Taxes	22.10	3.11		
Motor Vehicles	14.03	1.97	208	$67.49/license
Vehicle Operator	1.19	.17	183	$6.50/license
Corporation	5.87	.83	5	$1,111.32/license
Fishing and Hunting	1.01	.14	69	$14.62/license
Personal Income Tax	159.07	22.36	4,564,511	3.48¢/$
Corporate Income Tax	33.82	4.75	690,510	4.90¢/$
Property Taxes	218.83	30.77	15,640,879	1.40¢/$
Estate and Gift Taxes	5.94	.84	24,180	24.57¢/$
Severance Taxes	4.61	.65	138,432	3.33¢/$
Other Taxes	20.59	2.89	6,928,545[a]	.30¢/$
RTS TOTAL	711.28	100.00		

[a] The standard base for "Other Taxes" is assumed to be personal income.
Source: Author's calculations and sources reported in a methodological appendix.

Although the methodology used to derive the FY1997 RTS index is generally similar to that used for the FY1996 estimates reported in Tannenwald (1999), the FY1997 RTS index is different in a few important respects. The major differences lie in the methods for estimating property tax capacity and sales tax capacity. Differences between the old and the new methodologies are explained in the box on pages 20 and 21, and discussed in greater detail in the methodological appendix (available from the author on request).

Estimates of RTS Index for FY1997

State-specific index values for FY1997 and selected previous years are presented in Table 2. Map 1 compares each region's average RTS index value for FY1997 with its value for FY1996 (in parentheses).

Changes in the relative fiscal capacities of states and regions between the two years are attributable mostly to changes in methodology (see box). In particular, California's index of fiscal capacity jumped from 103 to 116, raising its rank from 17th to 8th. According to the methodology used in previous years, California's representative property tax base in FY1997 was approximately $1.9 billion. Unfortunately, California is the only state that, according to our research, does not publish an estimate of the fair-market value of either its statewide taxable property or its statewide taxed property. Fortunately, Sheffrin and Sexton (1998) have estimated the FY1996 fair-market

[4] The representative tax system approach has its critics. For an evaluation of the advantages and disadvantages of RTS and alternative approaches to evaluating interstate differences in fiscal capacity, see Tannenwald (1999). A comparison for FY1997 of the RTS index and two others, total taxable resources (constructed by the U.S. Department of the Treasury) and per capita personal income, can be found in Appendix Table 1.

Revised Method for Estimating Property Tax and Sales Tax Capacity

In the past, we evaluated a state's property tax capacity by dividing the potential property tax base into four components: residential property, commercial and industrial property, farm property, and utility property. Data limitations hampered efforts to estimate the value of each component on a state-by-state basis. Estimating the value of residential property proved especially troublesome, since the latest source of available data was the 1990 Census of Housing. State-specific values had to be forecasted for 1994 and 1996 levels using annual statistics on the prices of sold houses, the value of new residential construction, prices per square foot of rental property, and other relevant variables. The longer the time interval between 1990 and the year for which residential property tax capacity was forecast, the more imprecise this method became.

Concerned about the validity of residential property values projected seven years forward, we sought an alternative method of estimating FY1997 figures. Most state governments now estimate the fair-market value of the property located within their state's borders, many using sophisticated appraisal techniques. In some cases the state estimates both the market value of taxed property and that of exempt property by type of exemption (for example, residential homestead exemption, economic development incentive, and property owned by nonprofit organizations). In such instances, we were provided, in effect, with the means to estimate the value of the state's potentially taxable property.

In other cases, the state estimates the fair-market value only of taxed property. Since some types of exempt property should be included in the representative property tax base, in theory the market value of taxed property should be smaller than that of total potentially taxable property forecasted according to the original methodology. In practice, we found that, for some states, the value of reported taxed property exceeded that of estimated potentially taxable property, sometimes by a substantial amount. Faced with two imperfect alternatives, we elected to use the larger of the two measures as the preferred estimate of the representative property tax base. In other words, when encountering the improbable result that the estimated value of potentially taxable property was less than the reported value of taxed property, we chose the latter as the superior measure. As discussed in the text, this change in methodology affected the results of the analysis significantly.

We also modified the method for estimating each state's sales tax capacity in order to take into account the growing importance of non-store retail sales in certain states. Most non-store sales are made by establishments that sell over the Internet

value of potentially taxable property in several counties of California. Extrapolating from these numbers, we estimate that California's statewide potentially taxable property in FY1997 was $2.9 billion, almost 53 percent higher than the estimate generated by the previous methodology.[5]

Since the indicators of relative fiscal capacity presented in Table 2 are indexed to the national average and California accounts for more than one-eighth of the nation's economy, a 53 percent change in California's estimated representative property tax base exerts a significant impact on the index values of other states. Thirty-five of the 51 RTS values fell between FY1996 and FY1997. The RTS index rose in 16 states because, as the new methodology revealed, estimated index values for FY1996 were too low. Five of the six RTS indices that increased by 5 points or more were computed on the basis of state-provided estimates of property value. Among these four states, state-provided estimates of potentially taxable property value exceeded estimates produced with the old methodology by an average of 47 percent.

Within New England, changes in our estimating methodology significantly reduced the RTS index values for both Massachusetts and New Hampshire and raised Maine's substantially. Even though the base of the representative property tax in Massachusetts increased by 20 percent, the comparable nationwide base increased by 28 percent (again, largely because California's estimated base, and, therefore, the nation's, was low in FY1996). As a result, the Bay State's estimated index of property tax capacity declined by 7 points and fell in rank from a tie for 10th to 12th. Since the base of the

[5] Details concerning the manner in which we extrapolated Sheffrin and Sexton's estimates to arrive at our FY1997 value are provided in the methodological appendix.

or through mail-order catalogs. States are effectively prohibited from taxing most sales conducted through these avenues. If a firm engaging in such forms of commerce has property and/or employees located within a state, the state may tax items sold by the firm to resident households or resident businesses. Items sold to out-of-state purchasers, however, cannot be taxed.

In our 1994 and 1996 estimates, we included in our representative sales tax base (among other components) all retail sales of goods except gasoline and alcohol. Non-store sales of goods were included. The mix of retail trade among various types of goods in each state was assumed to be the same as reported in the 1992 Census of Retail Trade, at the time, the most comprehensive state-specific retail trade data available.[6] In 1992, non-store sales were less than 5 percent of total retail trade in every state except Maine, where they accounted for 7.3 percent (mainly because of the influence of the large mail-order company, L.L. Bean). Nationwide, non-store sales accounted only 2.6 percent of the total. By 1997, the importance of non-store sales had mushroomed, especially in certain states. They accounted for more than 5 percent of total retail trade in 22 states. In South Dakota, non-store sales made up 41.6 percent of all retail sales, compared to only 2.3 percent in 1992. Their share of total retail sales in Maine almost doubled, from 7.3 percent to 13.5 percent.[7]

Without some modification of the previous methodology, the estimates of the relative size of sales tax capacity would be seriously biased. Consequently, we modified the previous methodology as follows: For each state *s* we computed the variable IN_STATE_s, equal to nationwide non-store sales, NSS_n, times the state's share of nationwide personal income, Y_s. We then compared IN_STATE_s with the actual value of the state's non-store sales, NSS_s. If NSS_s was greater than or equal to IN_STATE_s, then we assumed that all of NSS_s was sold to resident households and businesses. If NSS_s was less than IN_STATE_s, we assumed that IN_STATE_s was the amount of non-store sales sold to resident purchasers, and $NSS_s - IN\_STATE_s$ was the amount of non-store sales sold to out-of-state purchasers. For example, in 1997, South Dakota residents accounted for 0.235 percent of the nation's personal income (that is Y_{SD} was 0.00235). In that year, nationwide non-store sales (NSS_n) totaled $123.1 billion. $Y_{SD} \times NSS_n$ equaled $0.289 billion, while South Dakota's actual non-store sales totaled $4.874 billion. We assumed that $4.585 billion ($4.874 billion – $0.289 billion) of the state's non-store sales was purchased by out-of-state residents.

representative property tax in the Granite State barely grew at all from FY1996 to FY1997, its estimated index of property tax capacity plunged by 26 points and declined in rank from 5th to a tie for 26th. The latter rank is more in line with crude indicators of interstate differences in per capita property wealth. Maine's RTS index rose from 89 to 95, primarily because its property tax component increased from 78 to 108, raising its rank from 46th to 14th. Evidently, the old methodology badly underestimated Maine's property tax capacity in FY1996.[8]

The fiscal capacity indices of the other three New England states did not change by more than 2 points in either direction between FY1996 and FY1997 despite sharp increases in relative property tax capacity. The property tax component of Vermont's RTS index increased from 86 to 110, and its rank rose from 39th to 13th. The comparable measure for Connecticut increased from 134 to 145 (although its rank dropped from 2nd to 3rd) and for Rhode Island, from 90 to 100 (raising its rank from 34th to 20th). The FY1997 estimates of the representative property tax base for each of these states were provided by the states themselves rather

[6] In extrapolating data to 1994 and 1996, we assumed that the percentage of total retail trade in each state was equal to the state's share of personal income. Thus, the only tie between the 1992 data and subsequent 1994 and 1996 data was the allocation of retail goods among different products.

[7] The percentage of retail sales in South Dakota accounted for by non-store sales increased greatly between 1992 and 1997 because, during this interval, Mastercard located a large processing facility in the state. The U.S. Census Bureau treats the transactions processed at this facility as sales sited in South Dakota. Similarly, the establishment of new credit card processing facilities partially accounts for the large increase in the ratio of non-store sales to total retail sales in Maine.

[8] Maine's Department of Revenue estimated the fair-market value of Maine's potentially taxable property in FY1997 at approximately $78 billion. However, according to the old methodology, in FY1996, it was only $46 billion.

Table 2

Index of Fiscal Capacity, Fiscal Years 1997, 1996, 1994, 1991, and 1987, Using Representative Tax System (RTS) Approach, by State

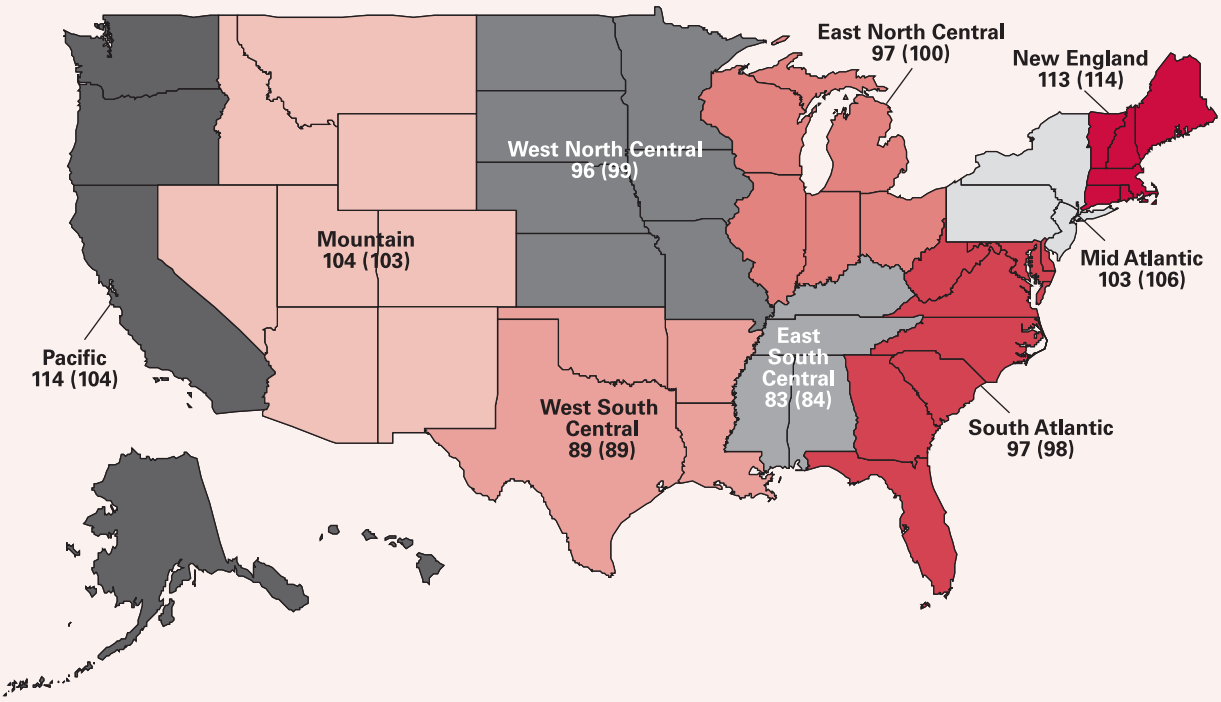
National Average = 100

	1997		1996		1994		1991		1987	
	Index (1)	Rank (2)	Index (3)	Rank (4)	Index (5)	Rank (6)	Index (7)	Rank (8)	Index (9)	Rank (10)
New England States										
Connecticut	129	3	129	2	132	3	130	4	139	2
Massachusetts	112	11	116	9	114	9	117	9	127	4
New Hampshire	110	12	118	8	107	12	110	11	123	6
Vermont	101	19	99	21	95	29	105	15	103	17
Maine	95	27	89	42	88	43	95	24	97	22
Rhode Island	92	38	91	39	91	38	89	38	96	24
Other States										
Alaska	133	1	127	3	135	2	178	1	169	1
Hawaii	130	2	120	7	125	5	146	2	113	10
Nevada	129	4	141	1	142	1	128	5	110	12
Wyoming	125	5	127	3	128	4	134	3	137	3
District of Columbia	123	6	126	5	125	5	123	7	122	7
Delaware	120	7	121	6	119	8	125	6	124	5
California	116	8	103	17	105	14	115	10	117	9
Colorado	115	9	114	11	110	10	109	12	111	11
New Jersey	114	10	116	9	124	7	119	8	122	7
New York	106	13	109	13	103	17	103	16	108	14
Maryland	106	14	108	14	107	12	106	14	109	13
Oregon	103	15	103	17	99	21	100	21	92	29
Illinois	103	16	110	12	108	11	102	19	97	22
Minnesota	103	17	107	15	104	15	101	20	104	16
Washington	101	18	104	16	102	18	108	13	99	20
Virginia	101	20	101	19	104	15	103	16	102	18
Arizona	100	21	94	35	93	34	94	26	100	19
Florida	98	22	100	20	100	20	103	16	105	15
Georgia	98	23	96	30	95	29	91	32	94	26
Nebraska	98	24	99	21	96	23	95	24	91	31
North Dakota	96	25	97	25	94	33	91	32	90	34
Michigan	96	26	98	24	101	19	94	26	95	25
Indiana	95	28	97	25	96	23	90	36	87	37
Iowa	94	29	97	25	93	34	93	28	84	41
South Dakota	94	30	95	33	91	38	86	42	78	46
Ohio	94	31	96	30	97	22	93	28	91	31
Kansas	94	32	96	30	96	23	93	28	93	27
Missouri	93	33	97	25	95	29	91	32	91	32
Wisconsin	93	34	97	25	96	23	90	36	88	36
North Carolina	93	35	92	36	92	36	93	28	90	34
Montana	92	36	99	21	96	23	91	32	87	37
Utah	92	37	92	36	85	45	82	45	79	44
Pennsylvania	92	39	95	33	96	23	96	23	92	29
Texas	91	40	91	39	95	29	97	22	99	20
New Mexico	90	41	85	44	90	40	87	40	87	37
Tennessee	90	42	92	36	90	40	82	45	84	41
Louisiana	89	43	88	43	92	36	89	38	86	40
Idaho	87	44	90	41	90	40	82	45	77	47
Kentucky	86	45	84	46	85	45	83	43	79	44
South Carolina	84	46	85	44	85	45	83	43	80	43
Oklahoma	83	47	84	46	86	44	87	40	93	27
Alabama	81	48	83	48	83	48	81	48	75	49
Arkansas	80	49	81	49	81	49	78	49	75	49
West Virginia	77	50	78	50	81	49	77	50	77	47
Mississippi	71	51	72	51	70	51	68	51	65	51

Note: Sources, methodology, and detailed statistics are presented in a methodological appendix.

Map 1

Index of Tax Capacity, Fiscal Years 1997 and (1996), by Region (National Average = 100)



Note: Sources, methodology, and detailed statistics are presented in a methodological appendix.

than calculated according to the old methodology, suggesting that each estimate for FY1996 was too low.

Large reductions in general sales tax capacity within the region offset these increases in estimated property tax capacity. Every New England state except New Hampshire experienced a decline in its per capita representative sales tax base from FY1996 to FY1997. These declines largely reflect the change in methodology for estimating general sales tax capacity between the two years, specifically, the removal of most nonstore sales from the representative sales tax base. The percentage of total retail trade accounted for by nonstore sales was well above the national average in every New England state.

Among the nine Census regions, the Pacific region experienced a large increase in its fiscal capacity in FY1997 because of the sharp increase in California's RTS index (Map 1). A comparable steep rise in Arizona's index was responsible for the small increase in the fiscal capacity of the Mountain region. Primarily because of the impact of the change in estimating methodology on California's fiscal capacity, other regions experienced either a decline or no change in their relative fiscal capacity.

III. The Representative Expenditure System Approach to Estimating Fiscal Need

The Representative Expenditure System (RES) approach is explained in Rafuse (1990a, 1990b) and Tannenwald (1998). Details concerning its implementation in this study are provided in the methodological appendix.

The RES Approach in Brief

Analogous to RTS, RES attempts to answer the following questions: (1) What are the characteristics of a representative bundle of state and local spending func-

Table 3

Index of Fiscal Need, Fiscal Years 1997, 1996, 1994, and 1987, Using Representative Expenditure System (RES) Approach, by State

National Average = 100

	1997		1996		1994		1987	
	Index (1)	Rank (2)	Index (3)	Rank (4)	Index (5)	Rank (6)	Index (7)	Rank (8)
New England States								
Connecticut	101	18	102	12	101	14	92	44
Massachusetts	94	36	93	37	90	41	87	49
Rhode Island	91	43	89	45	88	43	86	50
Vermont	89	48	90	42	83	51	89	47
Maine	89	49	88	49	85	49	89	47
New Hampshire	87	51	84	51	86	47	85	51
Other States								
District of Columbia	121	1	126	1	116	1	103	16
New Mexico	112	2	115	2	107	5	111	3
California	109	3	110	3	110	3	101	23
Texas	107	4	108	6	110	3	110	4
Louisiana	107	5	109	5	115	2	110	4
Mississippi	107	6	110	3	105	7	113	2
Georgia	106	7	104	8	104	8	109	6
Alaska	106	8	102	12	104	8	121	1
Arizona	106	9	105	7	100	16	103	16
Arkansas	106	10	100	20	97	23	106	10
New York	104	11	104	8	107	5	95	40
Kentucky	103	12	101	15	104	8	108	8
Tennessee	102	13	102	12	99	19	104	14
Alabama	102	14	104	8	102	12	109	6
Wyoming	102	15	101	15	96	27	102	20
Oklahoma	102	16	104	8	102	12	104	14
West Virginia	101	17	100	20	101	14	103	16
Michigan	100	19	101	15	104	8	108	8
Illinois	100	20	101	15	100	16	102	20
Idaho	100	21	100	20	97	23	106	10
Montana	100	22	98	23	91	39	102	20
South Dakota	98	23	96	25	97	23	105	11
Virginia	98	24	96	25	94	32	99	27
North Dakota	98	25	96	25	93	35	105	11
South Carolina	97	26	101	15	96	27	103	16
Ohio	97	27	97	24	99	19	100	24
New Jersey	97	28	95	29	95	30	93	42
North Carolina	96	29	95	29	97	23	99	27
Utah	96	30	95	29	95	30	105	11
Missouri	96	31	92	39	100	16	100	24
Florida	95	32	96	25	94	32	93	42
Minnesota	95	33	94	35	96	27	102	20
Kansas	95	34	95	29	99	19	98	31
Nevada	94	35	94	36	93	35	96	36
Maryland	94	37	95	29	94	32	97	35
Indiana	93	38	92	39	99	19	99	27
Pennsylvania	93	39	93	37	93	35	90	45
Washington	93	40	95	29	93	35	96	36
Hawaii	92	41	90	42	85	49	90	45
Oregon	92	42	91	41	91	39	98	31
Colorado	90	44	90	42	88	43	98	31
Wisconsin	90	45	89	45	89	42	94	41
Delaware	89	46	89	45	88	43	96	36
Nebraska	89	47	88	49	86	47	96	36
Iowa	89	50	89	45	88	43	96	36

Note: Sources, methodology, and detailed statistics are presented in a methodological appendix.

tions? (2) What constitutes a standard level of services for each function? and (3) What would each state and its municipalities have to spend, in per capita terms, to provide this standard bundle and level of services? The higher this amount, the greater is the state's fiscal need.

The first step in RES is to identify and define categories of state and local governmental outlays whose level of spending within a state is significantly influenced by factors other than population. Currently, there are six such categories: elementary and secondary education, higher education, public welfare, health and hospitals, highways, and police and corrections. In FY1997, these six functions accounted for about 70 percent of all state and local governmental expenditures. The need for other functions, such as general administration, environmental protection, and housing, is assumed to be proportional to population.

The second step is to identify, for each of the six functions, measurable "workload" factors—determinants of the cost of providing a given level of service *other than the price of inputs used by governments*. For example, one workload measure for highway expenditures in a given state is the number of vehicle-miles traveled, a determinant of maintenance and repair costs attributable to traffic. The other, lane-miles of streets and roads, is a determinant of maintenance and repair costs attributable to the passage of time and exposure to the elements. For example, Massachusetts accounted for 0.9 percent of the nation's lane-miles of roadway and 2.0 percent of vehicle-miles traveled. Where more than one workload factor applies to a particular function, a weighted average of the factors is used as a composite workload measure. For example, the number of vehicle-miles traveled is weighted 33/7 times more heavily than the total number of lane-miles in the workload measure for highways.[9] Consequently, Massachusetts's workload factor for highways was 0.175 x 0.9 + 0.825 x 2.0, or 1.86 percent.

The nationwide spending by state and local governments on each function is then multiplied by the state's workload measure for that function to determine how much the state would have spent if it had provided a standard level of services, that is, if it had spent an average amount per "workload measure unit." For example, in FY1997, the nation's state and local governments spent $82.06 billion on highways. With a workload measure of 1.81 percent, Massachusetts's spending on highways would have been approximately $1.49 billion (0.0181 x $82.06 billion), or $243 per capita. Nationwide, per capita state and local spending on highways was $306. Thus, Massachusetts's highway workload measure was lower than its share of the nation's population.

The next step in estimating a state's fiscal need index is to adjust its estimated per capita "standard" spending on each function for its relative cost of inputs for that function. The complicated methodology for this adjustment is explained in Rafuse (1990a) and in this study's methodological appendix. In FY1997, Massachusetts's input costs for highway services were 2.0 percent higher than the national average. Consequently, its unadjusted per capita spending on highways was raised to 1.020 x $243, or $248—81 percent of the national average.

For each state, the per capita standard spending levels on each function are totaled to obtain the state's per capita spending on a standard expenditure package. These totals are indexed to the actual national per capita spending by state and local governments to arrive at an index of fiscal need for each state. The results are presented in Table 3 and Map 2. Subindices for selected individual functions can be found in the methodological appendix.

New England's fiscal need was tied for the lowest rank among the nine Census regions.

Fiscal Need: Results

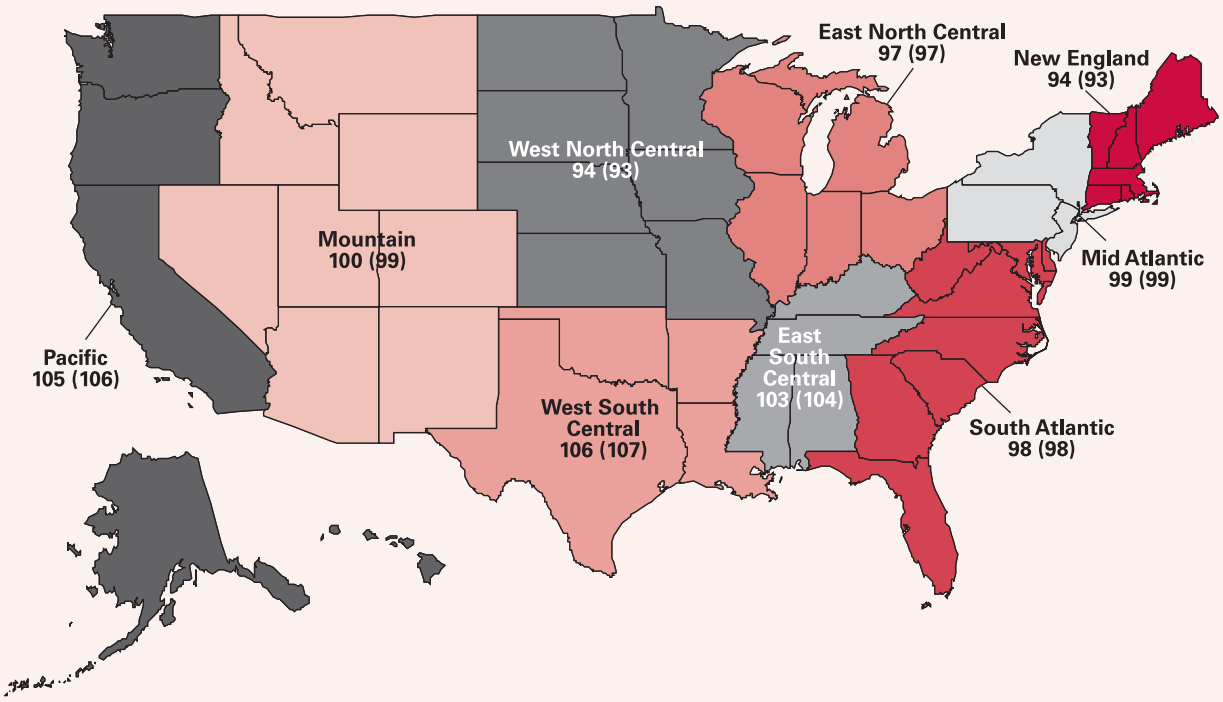
New England's index of fiscal need rose by 1 point between FY1996 and FY1997, largely because the poverty rate rose in Massachusetts, New Hampshire, and Rhode Island. Connecticut, Maine, and Vermont all enjoyed modest declines in their poverty rates. Connecticut also enjoyed a decline in its relative need for police and corrections services because its crime rate fell relative to the national average. New England's fiscal need was tied with that of the West North Central Region for the lowest among the nine Census regions. Four of the region's six states ranked

[9] This weighting reflects analyses by engineers indicating that the intensity of roadway usage is the primary determinant of the need for road and bridge maintenance and repair, not the total length of roadway.

Map 2

Index of Fiscal Need, Fiscal Years 1997 and (1996), by Region

National Average = 100



Note: Sources, methodology, and detailed statistics are presented in a methodological appendix.

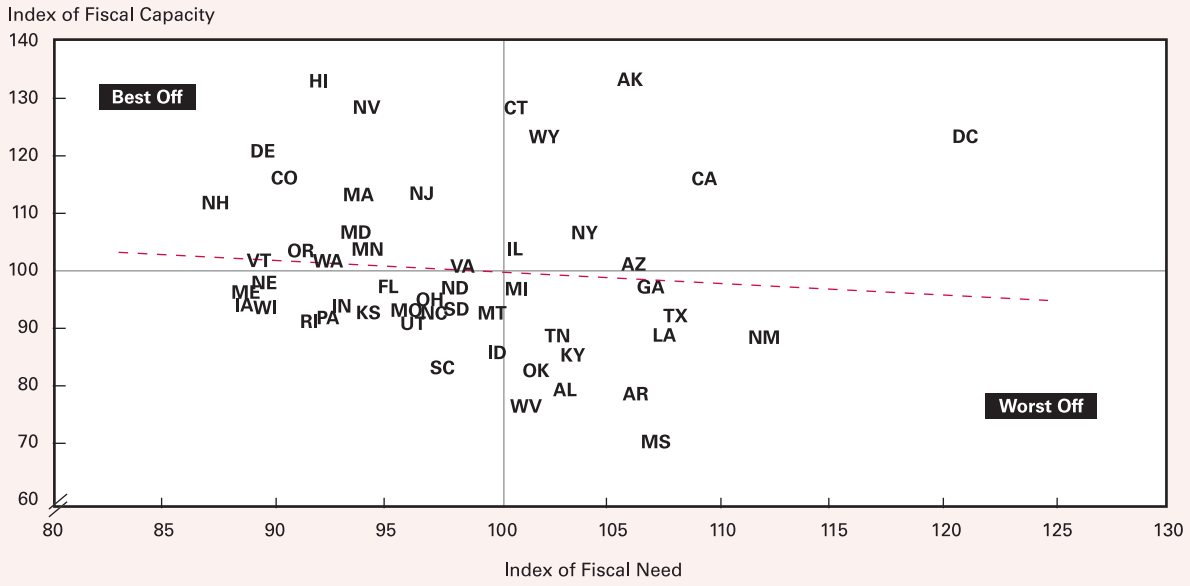
in the bottom quartile, while Massachusetts, 36th, fell within the bottom one-third of the distribution. Connecticut, 12th in FY1996, fell to 18th. Over the same period, Vermont fell from 42nd to 48th. While New Hampshire's fiscal need index rose by 3 points, it still had the lowest index in the nation.

The dispersion in fiscal need among the nine Census regions narrowed between FY1997 and FY1996, just as it did between FY1996 and FY1994. The New England, West North Central, and Mountain regions exhibited increases in fiscal need, while fiscal need fell slightly in the Pacific, West South Central, and East South Central regions. The three states exhibiting the greatest percentage-point increase in their fiscal need index were Arkansas (5 percentage points), Missouri (4 percentage points), and New Hampshire (3 percentage points, as noted above). Arkansas's deteriorating position was attributable largely to a 2.4 percentage-point increase in its poverty rate. Similarly, New Hampshire's poverty rate, although at a much lower level than Arkansas's, increased by 1.9 percentage points. However, Arkansas suffered a rise in its crime rate, increasing its need for police and corrections; it also experienced a rise in automobile and truck traffic, resulting in a greater need for spending on bridges and highways.

Thanks to a significant drop in its crime rate, the District of Columbia enjoyed the largest percentage-point decline in its fiscal need index (5 percentage points). However, it still suffered the highest degree of fiscal need in the nation. South Carolina enjoyed a 4 percentage-point drop because of a 3.4 percentage-point reduction in its poverty rate. Comparable reductions in poverty levels in Mississippi and New Mexico enabled these two states to reduce their fiscal need indices by 3 percentage points. New Mexico also enjoyed a greater-than-average drop in its crime rate.

Figure 1

Correlations between Fiscal Capacity and Fiscal Need, Fiscal Year 1997



Note: Sources, methodology, and detailed statistics are presented in a methodological appendix.

The Correlation between Fiscal Capacity and Fiscal Need

As discussed in Tannenwald (1998, p. 68), those opposed to devolution would be less concerned if states facing the most severe fiscal need enjoyed the most fiscal capacity. However, just as in FY1996, FY1994, and FY1987, the opposite was true in FY1997. Figure 1 shows that few high-need states are blessed with ample fiscal capacity (upper right-hand quadrant), while several high-capacity states enjoy low need (upper left-hand quadrant). Several states in the southern and southwestern parts of the country suffer from both low capacity and high need. Overall, the correlation between capacity and need was slightly negative (–0.07), less negative than in FY1996 and still statistically insignificant. Even when the District of Columbia, a high-need high-capacity outlier, is omitted from the sample, the negative correlation increases only to –0.21, still statistically insignificant.

IV. Fiscal Comfort

An index of fiscal comfort for FY1997 was created for each state by dividing its index of tax capacity by its index of fiscal need. State-specific values for this index, along with values for FY1996, FY1994, and FY1987, are presented in Table 4. Comparisons of regional values for FY1997 and FY1996 are made in Map 3.

The comfort index of the New England region fell by 1 point in FY1997, mostly because of declines in the estimated relative tax capacity of Massachusetts and New Hampshire. As explained above, however, these declines mostly reflect an overestimation of these states' RTS index values in FY1996, not a deteriorating relative revenue-raising capacity. New Hampshire suffered a 15-point decline in its comfort index, the largest in the nation, mostly because of significant decreases in its estimated relative tax capacity. Yet, as in earlier years, New England, with its high fiscal capacity and low fiscal need, was far more comfortable in FY1997 than any other region. Five of the six states were more comfortable than the median state (Rhode Island). States with the biggest increases in fiscal comfort in FY1997 included Arizona, California, Hawaii, Maine, and New Mexico. States suffering the steepest declines in comfort, besides New Hampshire, were Arkansas, Illinois, Montana, and Nevada.

Table 4

Index of Fiscal Comfort, Fiscal Years 1997, 1996, 1994, and 1987, by State

National Average = 100

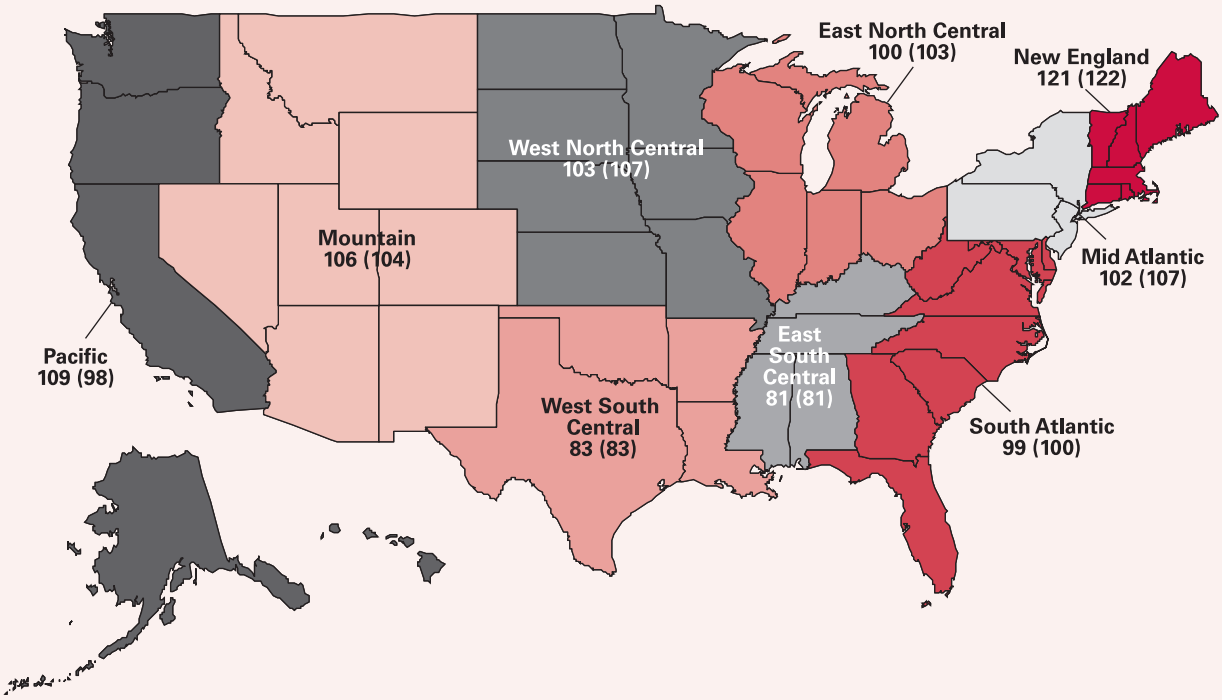
	1997		1996		1994		1987	
	Index (1)	Rank (2)	Index (3)	Rank (4)	Index (5)	Rank (6)	Index (7)	Rank (8)
New England States								
Connecticut	128	4	126	5	131	5	152	1
New Hampshire	126	6	141	2	124	10	144	4
Massachusetts	120	9	125	8	127	8	145	3
Vermont	113	11	111	15	114	11	115	12
Maine	107	17	100	30	104	24	109	18
Rhode Island	101	25	102	25	103	25	112	16
Other States								
Hawaii	141	1	134	4	147	2	126	9
Nevada	137	2	150	1	153	1	147	2
Delaware	134	3	135	3	135	3	128	8
Colorado	127	5	126	5	125	9	113	13
Alaska	126	7	124	9	130	7	139	5
Wyoming	122	8	126	5	133	4	134	6
New Jersey	118	10	122	10	131	5	152	1
Maryland	113	12	113	11	114	11	112	16
Oregon	113	13	113	11	109	16	94	26
Nebraska	109	14	112	14	112	13	94	26
Washington	109	15	109	16	110	15	104	20
Minnesota	108	16	113	11	108	17	106	19
Iowa	106	18	108	19	106	21	87	36
California	106	19	94	37	95	33	116	11
Wisconsin	103	20	109	16	108	17	93	28
Illinois	103	21	109	16	108	17	95	24
Virginia	103	22	105	20	111	14	104	20
Florida	103	23	104	24	106	21	113	13
New York	102	24	105	20	96	32	91	29
District of Columbia	101	26	100	30	108	17	119	10
Indiana	101	27	105	20	97	29	88	34
Kansas	99	28	101	27	97	29	95	24
Pennsylvania	99	29	102	25	103	25	102	21
North Dakota	99	30	101	27	101	27	86	38
Missouri	97	31	105	20	95	33	91	29
Ohio	97	32	99	33	98	28	95	24
Utah	96	33	97	34	89	41	75	45
North Carolina	96	34	97	34	95	33	91	29
South Dakota	96	35	100	30	94	36	75	45
Michigan	96	36	97	34	97	29	88	34
Arizona	95	37	90	39	93	37	77	43
Montana	93	38	101	27	105	23	85	39
Georgia	92	39	92	38	91	39	87	36
Tennessee	87	40	90	39	91	39	81	40
Idaho	87	41	90	39	93	37	77	43
South Carolina	87	42	85	42	89	41	76	44
Texas	85	43	85	42	86	43	90	32
Louisiana	83	44	81	45	80	49	78	41
Kentucky	83	45	83	44	82	47	73	48
Oklahoma	82	46	80	47	84	44	90	32
New Mexico	80	47	74	50	84	44	78	41
Alabama	79	48	79	48	81	48	69	50
Arkansas	76	49	81	45	84	44	70	49
West Virginia	76	50	78	49	80	49	78	41
Mississippi	67	51	65	51	67	51	57	51

Note: Sources, methodology, and detailed statistics are presented in a methodological appendix.

Map 3

Index of Fiscal Comfort, Fiscal Years 1997 and (1996), by Region

National Average = 100



Note: Sources, methodology, and detailed statistics are presented in a methodological appendix.

Dispersion in fiscal comfort in FY1997 was slightly narrower than in FY1996 and considerably narrower than in FY1987.[10] This narrowing somewhat alleviates the concern of devolution's detractors that fiscally stressed states have difficulty competing with their fiscally comfortable counterparts.

It is important to keep in mind, however, that changes in methodology, revealing inaccurate estimation of the relative fiscal capacity of some states in FY1996 and perhaps earlier years, significantly influenced these results. Intertemporal comparisons of the fiscal comfort of any given state or of dispersion in fiscal comfort for the states as a whole should, therefore, be interpreted with caution.

Fiscal Comfort, Tax Effort, and Interstate Differences in Preferences for Level of Public Services

Another key issue for both supporters and detractors of devolution is the diversity across states in preferences for the size of state and local government. Proponents contend that decentralization would give citizens an opportunity to realize diverse preferences. Opponents fear that states preferring limited government would fail to provide levels of service consistent with the national interest.

As discussed in Tannenwald (1998), the extent of interstate diversity in preferences on this issue can be estimated roughly from measures of fiscal capacity and fiscal comfort. Other things equal, fiscally stressed

[10] The mean absolute deviation from 100 was 12.8 in FY1997, 13.7 in FY1996, 14.4 in FY1994, and 18.7 in FY1987.

states (low comfort) are compelled to spend a high fraction of their tax base to provide a given level of public services. Consequently, if preferences for levels of state and local public services were similar across states, one would expect states with low levels of fiscal comfort to tax their revenue bases relatively intensively, that is, to exercise a relatively high tax effort. A lack of correlation or a negative correlation between fiscal comfort and tax effort would imply that fiscally stressed states prefer lower levels of government than their fiscally comfortable counterparts.

Table 5 provides indices of relative tax effort by state for FY1997, FY1996, and FY1994. Tax effort is measured as the ratio of each state's actual tax collections to the taxes it would have collected under the representative tax system. With the exception of New Hampshire, the New England states have exhibited high tax effort, although Vermont's tax effort fell sharply between FY1994 and FY1996 and increased only slightly in FY1997. Given the apparent underestimation in FY1996 of the relative tax capacity of Alaska, Arizona, California, and Hawaii, relative tax effort in all four of these states fell. Concomitantly, many states registering sizable declines in their tax capacity also posted large increases in their tax effort index. Examples include Illinois, Massachusetts, Montana, and New Hampshire. In several states, increases in relative tax effort could be only partially explained by reductions in estimated relative tax capacity. For example, Connecticut's tax effort index increased by 6

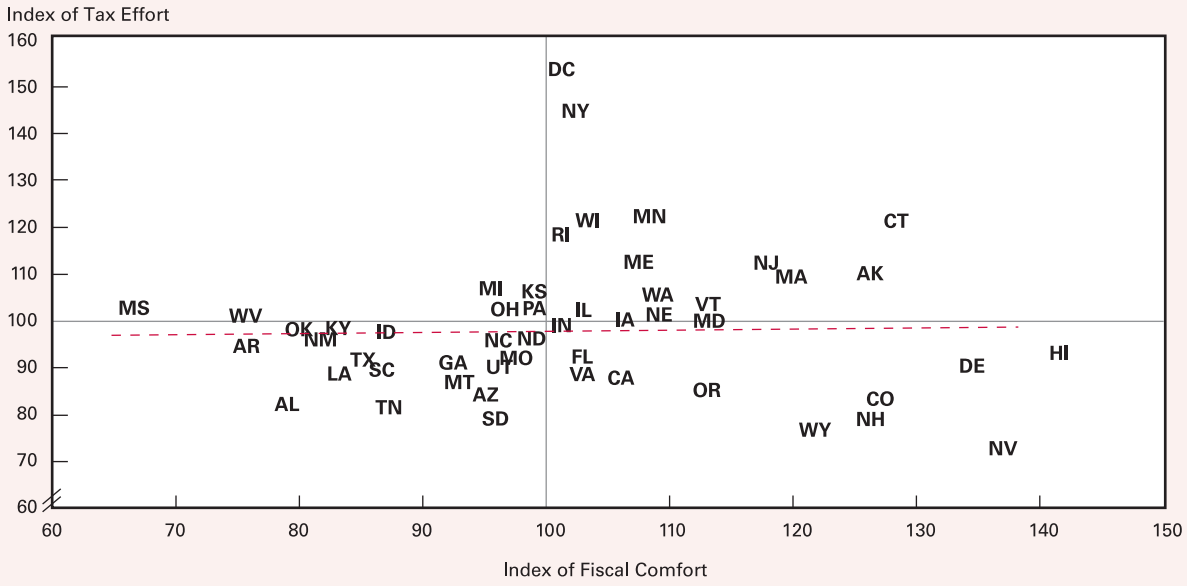
Table 5
Index of Tax Effort, Fiscal Years 1997, 1996, and 1994, by State
National Average = 100

	1997		1996		1994	
	Index (1)	Rank (2)	Index (3)	Rank (4)	Index (5)	Rank (6)
New England States						
Connecticut	121	4	115	6	109	6
Rhode Island	118	6	117	3	114	4
Maine	112	7	113	8	111	5
Massachusetts	109	10	104	10	104	13
Vermont	102	16	100	17	109	6
New Hampshire	79	49	74	49	85	42
Other States						
District of Columbia	153	1	141	1	148	2
New York	144	2	141	1	155	1
Minnesota	122	3	113	8	109	6
Wisconsin	121	5	117	3	117	3
New Jersey	112	8	114	7	108	9
Alaska	110	9	116	5	100	18
Michigan	106	11	100	17	105	11
Washington	105	12	104	10	105	11
Pennsylvania	104	13	102	13	101	16
Kansas	103	14	99	21	101	16
Ohio	102	15	100	17	95	26
Mississippi	102	17	102	13	98	20
Illinois	102	18	97	26	96	23
Nebraska	101	19	99	21	100	18
Maryland	100	20	100	17	103	14
West Virginia	100	21	99	21	95	26
Iowa	100	22	98	25	103	14
Indiana	99	23	88	40	92	32
Kentucky	97	24	99	21	95	26
Idaho	97	25	92	30	91	33
Oklahoma	97	26	92	30	89	35
New Mexico	97	27	102	13	97	21
North Dakota	96	28	89	36	89	35
North Carolina	96	29	94	28	96	23
Arkansas	95	30	92	30	86	40
Hawaii	93	31	104	10	107	10
Missouri	92	32	87	41	82	46
Florida	91	33	90	33	91	33
Texas	91	34	90	33	89	12
Georgia	91	35	95	27	93	30
Delaware	90	36	90	33	87	39
Utah	90	37	89	36	93	30
South Carolina	90	38	89	36	88	38
Virginia	89	39	89	36	86	40
Louisiana	89	40	86	42	78	50
California	88	41	101	16	96	23
Montana	87	42	79	46	85	42
Oregon	85	43	85	43	95	26
Arizona	84	44	93	29	97	21
Colorado	83	45	82	45	85	42
Alabama	82	46	83	44	80	49
Tennessee	81	47	79	46	81	48
South Dakota	79	48	79	46	83	45
Wyoming	77	50	74	49	82	46
Nevada	73	51	73	51	69	51

Note: Sources, methodology, and detailed statistics are presented in a methodological appendix.

Figure 2

Correlation between Tax Effort and Fiscal Comfort, Fiscal Year 1997



Note: Sources, methodology, and detailed statistics are presented in a methodological appendix.

points, although its tax capacity index was unchanged. Other states exhibiting large hikes in their tax effort index relative to the decrease in their tax capacity index include the District of Columbia, Idaho, Indiana, Minnesota, North Dakota, and Oklahoma. As was true in FY1996 and FY1994, New York and the District of Columbia taxed their standard bases far more intensively than other states.

As shown by the scatter plot in Figure 2, only a handful of states have low fiscal comfort and above-average tax effort (upper left-hand quadrant). Many states exhibit both low tax effort and low comfort (lower left-hand quadrant) or high tax effort and high comfort (upper right-hand quadrant), just the opposite of what one would expect if preferences were similar. However, a number of states had both high comfort and low effort (lower right-hand quadrant). The correlation coefficient between effort and comfort was 0.02, statistically indistinguishable from 0. This absence of correlation suggests that a state's preference for public services tends to become stronger as its fiscal comfort increases. This result supports the devolutionist argument that greater state autonomy would give Americans more opportunity to express the geographic diversity of their preferences for public goods.

V. Conclusion

Our estimated indices for FY1997 suggest that states differ widely in both their relative fiscal comfort and their relative tax effort. In that year, as well as in FY1996 and FY1994, the most fiscally comfortable states were concentrated in the New England, Mid-Atlantic, and Pacific regions, while the most fiscally stressed states were concentrated in the East South Central and West South Central states. Tax effort and fiscal comfort were not correlated in FY1997, suggesting that fiscally comfortable states have a stronger preference for state and local public services than their fiscally stressed counterparts. Devolutionists are cor-

Our estimates for fiscal year 1997 suggest that states differ widely in both their relative fiscal comfort and their relative tax effort.

rect in pointing out that states differ in the level of fiscal services they demand from their state and local governments. Fiscally equalizing aid could, therefore, induce the governments of fiscally stressed states to provide an inefficiently high level of public services and governments, while causing governments of fiscally comfortable states to provide a level of public services that is too low.

Yet, persistent interstate disparity in fiscal stress suggests that Congress should consider increasing the amount of fiscally equalizing assistance that the federal government offers state and local governments.[11] The belief that households in similar circumstances should bear similar tax burdens in order to obtain similar levels and bundles of state and local public services is compelling. Tilting federal aid allocation formulas in favor of fiscally stressed jurisdictions could offset some of the inherent disadvantages that such jurisdictions sometimes face in economic competition for workers and employers.

Our estimates of fiscal need, fiscal comfort, and tax effort highlight the limitations of available relevant underlying data and the need for continuous development of estimation methodologies. Those who construct and use these indices should constantly search for better statistics and for economic, social, and political changes that introduce methodological biases. As more and more states put better and better data on the Internet, estimates of these indices should improve in accuracy and unbiasedness. Given the need for frequent changes in estimating methods, however, users of these indices should be very cautious in interpreting changes in a state's standing from one year to the next.

[11] Several existing federal aid programs, such as Medicaid and the State Children's Health Insurance Program, are fiscally equalizing. The measures of state fiscal capacity used in their allocation formulas are based on state per capita personal income.

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Appendix Table 1

Alternative Indices of Fiscal Capacity Compared, by State, Fiscal Year 1997

National Average = 100

	Representative Tax System (RTS)		Total Taxable Resources (TTR)		Per Capita Personal Income	
	Index (1)	Rank (2)	Index (3)	Rank (4)	Index (5)	Rank (6)
New England States						
Connecticut	129	3	145	2	137	1
Maine	95	27	82	42	87	36
Massachusetts	112	11	121	7	121	4
New Hampshire	110	12	120	8	107	8
Rhode Island	92	38	100	20	101	18
Vermont	101	19	89	37	91	34
Other States						
Alabama	81	48	78	46	82	41
Alaska	133	1	122	6	106	11
Arizona	100	21	89	36	86	37
Arkansas	80	49	76	48	77	48
California	116	8	104	15	104	14
Colorado	115	9	105	14	107	10
Delaware	120	7	144	3	105	13
District of Columbia	123	6	159	1	133	2
Florida	98	22	94	27	98	21
Georgia	98	23	97	22	94	27
Hawaii	130	2	101	18	101	17
Idaho	87	44	80	45	81	45
Illinois	103	16	109	12	110	7
Indiana	95	28	90	34	92	32
Iowa	94	29	93	29	92	30
Kansas	94	32	95	25	95	25
Kentucky	86	45	83	41	83	40
Louisiana	89	43	91	32	82	42
Maryland	106	14	110	11	114	6
Michigan	96	26	91	33	100	20
Minnesota	103	17	102	16	107	9
Mississippi	71	51	70	51	73	51
Missouri	93	33	93	30	94	28
Montana	92	36	74	49	78	47
Nebraska	98	24	95	24	95	26
Nevada	129	4	114	10	106	12
New Jersey	114	10	129	4	125	3
New Mexico	90	41	85	40	77	49
New York	106	13	120	9	117	5
North Carolina	93	35	93	31	92	31
North Dakota	96	25	81	44	81	46
Ohio	94	31	94	28	97	22
Oklahoma	83	47	76	47	82	43
Oregon	103	15	100	19	96	24
Pennsylvania	92	39	96	23	101	19
South Carolina	84	46	81	43	83	39
South Dakota	94	30	90	35	86	38
Tennessee	90	42	88	38	90	35
Texas	91	40	98	21	94	29
Utah	92	37	85	39	81	44
Virginia	101	20	106	13	104	16
Washington	101	18	102	17	104	15
West Virginia	77	50	73	50	76	50
Wisconsin	93	34	94	26	96	23
Wyoming	125	5	123	5	92	33

Note: Methodology and detailed statistics are presented in a methodological appendix.

Source: U.S. Bureau of Economic Analysis; U.S. Department of the Treasury (1999); and author's calculations.

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